we-ef

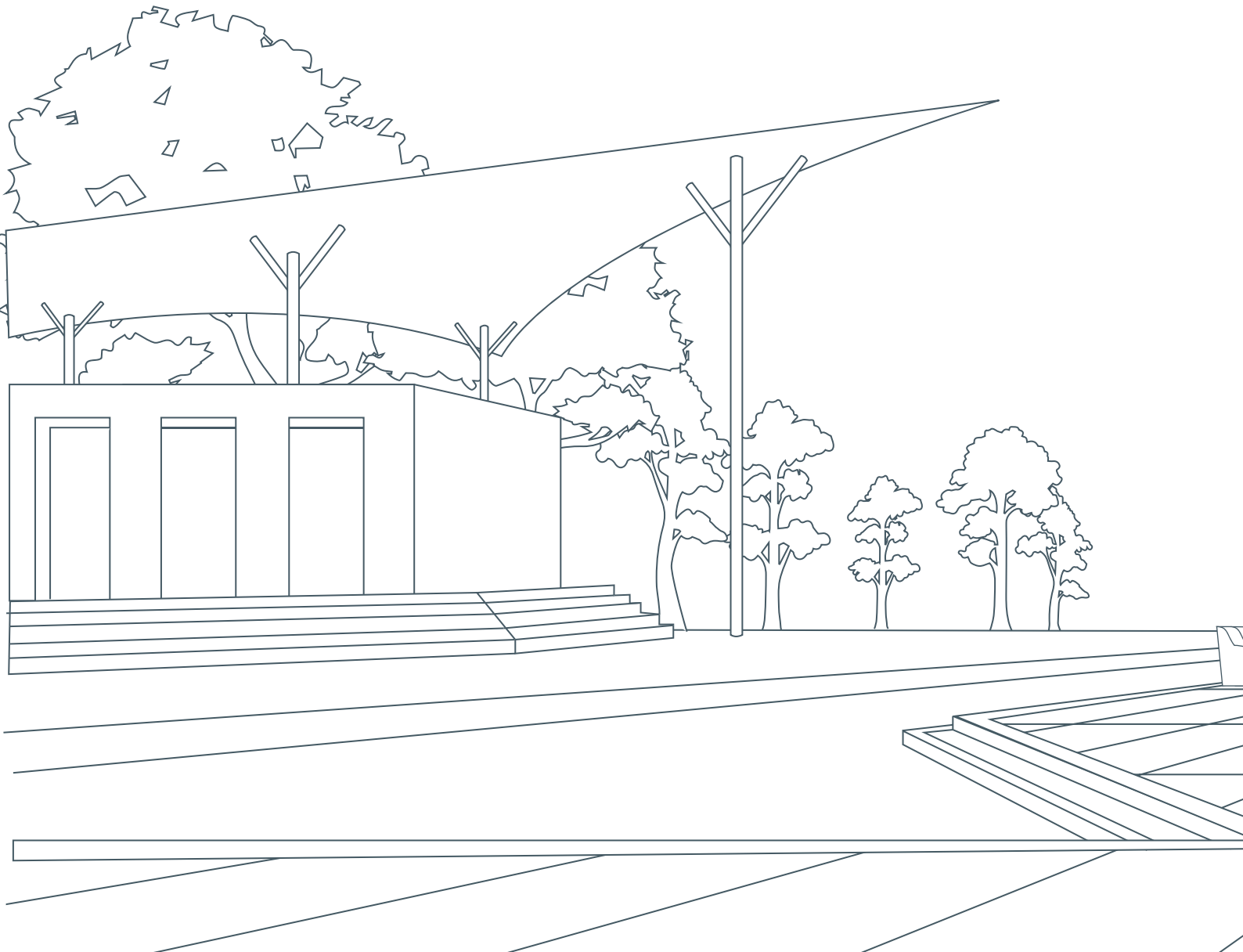
WE-EF LIGHTING

General Catalogue

Asia Pacific Edition

Bollards and pathway luminaires

Landscape



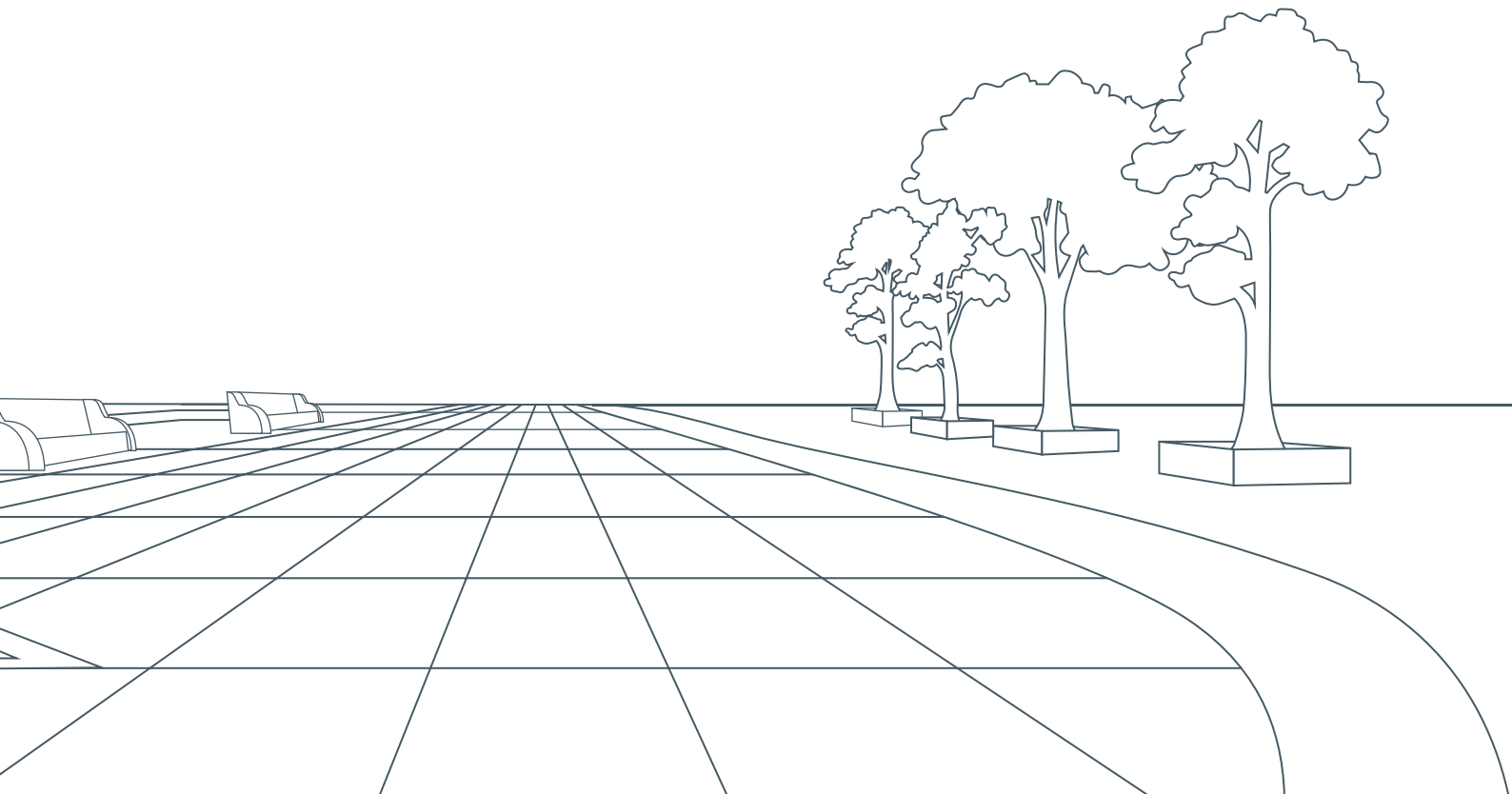
Visual comfort. Orientation. The creation of spaces that make us want to stay. These are the decisive factors when it comes to attractively illuminating open areas, pathways, and walks in parks, gardens or around buildings.

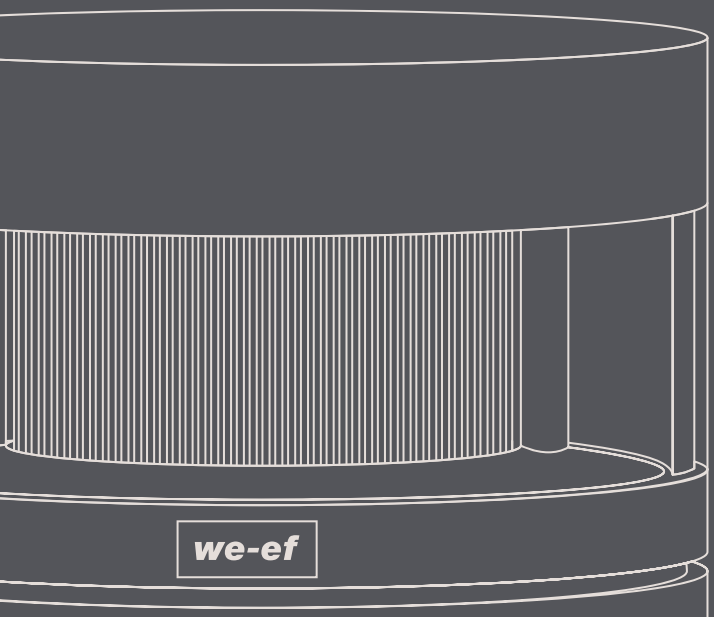
These are the principles that guide us, in our work of designing bollards, pathway luminaires and light columns that ensure nuanced and pleasantly glare-free lighting.

The subtle, clearly proportioned shapes come in a multitude of styles and variations, adding further weight to our argument. After all, these luminaires are also present by day, so they should blend in smoothly with any environment.

After sunset, it's mostly WE-EF's lighting technology that counts, scoring high with the versatility, precision and efficiency of WE-EF lens systems.

Additionally, they remain effective and reliable for not just for one summer, but for many years, thanks to WE-EF's proven 5CE Superior Corrosion Protection system, no matter how bad the weather or how rough the conditions.



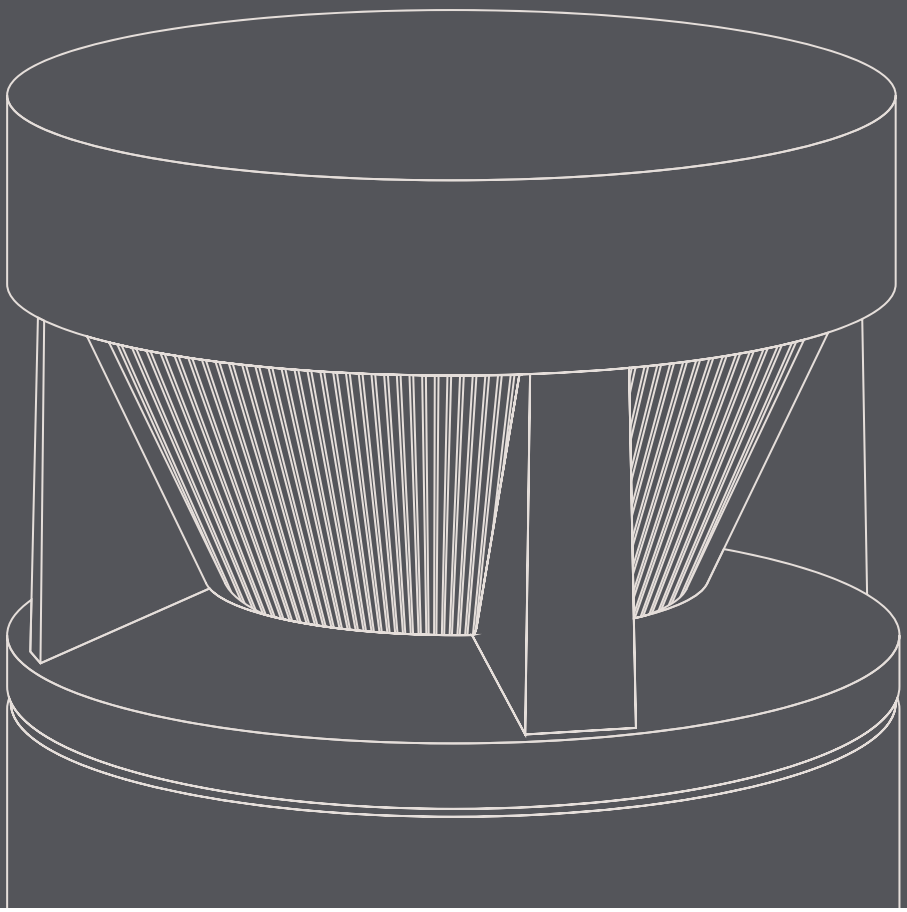


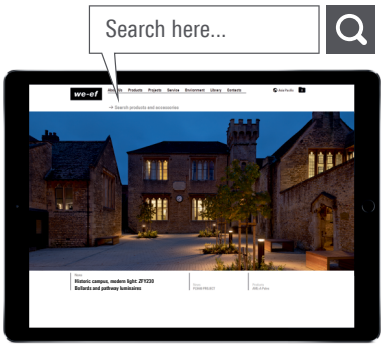
When it comes to creating an atmosphere in exterior areas, bollards and pathway luminaires by WE-EF are always a good choice.

Whether single or in rows, their effective light and attractive shape guarantees a convincing impact. Bollards and pathway luminaires by WE-EF come in a wide variety of shapes and sizes. Well-proportioned and based on a range of clear fundamental geometries, they blend harmoniously with almost any environment. As great aids for ensuring good orientation and secure navigation, they illuminate public parks, paths and squares as well as hotels and housing estates, driveways and private gardens.

In the evening hours, their light makes a significant contribution to creating spaces where people like to spend their time – inviting, pleasant and with just the right amount of brightness. With a wide range of light distributions to choose from, they offer glare-free light for high visual comfort. Many even meet the 'Dark Sky' criteria. Due to their efficient lighting technology, the luminaires can be spaced with large intervals without impairing the effect and homogeneity of the light. Furthermore, WE-EF's very own 5CE Superior Corrosion Protection ensures a reliable and durable performance by the luminaires even under the harshest conditions, e.g., in the vicinity of seawater.

Bollards and pathway luminaires





Bollards and pathway luminaires

For detailed specifications, product codes and latest performance data, refer to www.we-ef.com

King's Bruton Boarding School

Historic Campus. Modern Light

Even after more than 500 years, this boarding school in the county of Somerset has managed to keep its finger on the pulse of time, and it shows. The venerable school complex with its meticulously restored historical buildings, atmospheric open spaces and scenic paths is illuminated efficiently and glare control with ZFY230 bollard luminaires by WE-EF. Their unpretentious cylindrical shape is a perfect fit with the campus' harmonious blend of modern and historical elements.

King's Bruton Boarding School
Bruton (UK)
Architect: Levitt Bernstein

PSY400

Luminaire housing:	Marine-grade, all-aluminium construction
	Pole section features galvanised steel reinforcement core
Corrosion protection:	5CE, including PCS hardware
Driver:	Integral EC electronic converter
Main lens:	RFC™ Reflection Free Contour
Gasketing:	Silicone CCG® Controlled Compression Gasket
Optics:	IOS® Innovative Optical System
	CAD-optimised for superior illumination and glare control
	OLC® One LED Concept
Installation:	FS Factory-sealed luminaire does not need to be opened during installation
	Surface mounting flange plate
	Planted root is available depending on site-specific requirements; to be ordered separately
Control options:	ON/OFF, 1-10 V, DALI

IP66 IK10

Available distributions:
[R45] [S70] [A60] [R65]

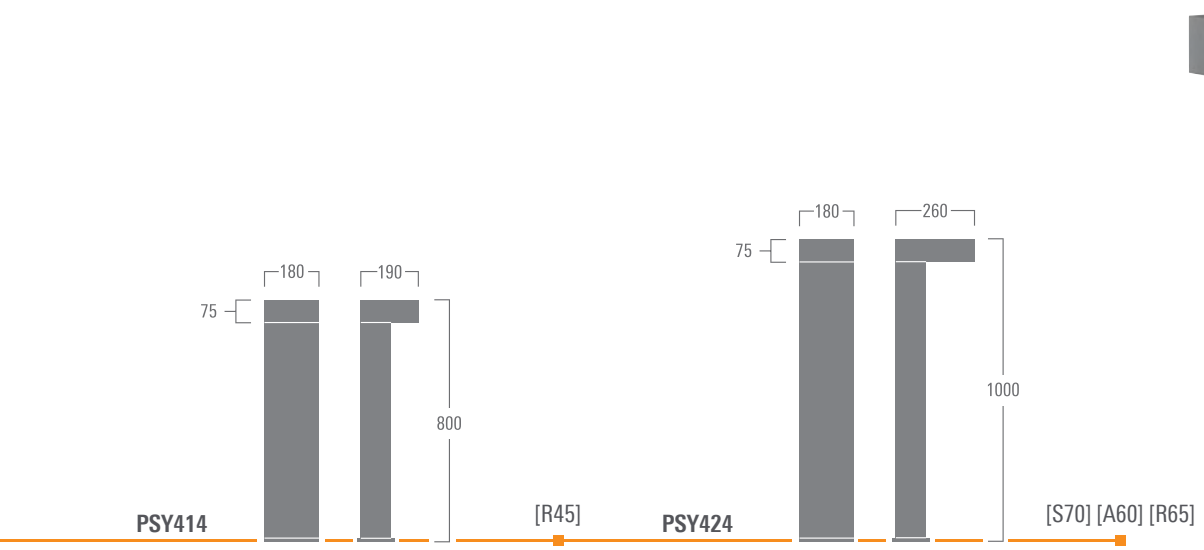
Standard colours – AU/NZ

RAL 9004 9006 9007 9016

Standard colours – AP

RAL 9004 9007 7016 9016

[R45] Rectangular 'side throw'
[S70] Asymmetric 'side throw'
[A60] Asymmetric 'forward throw'
[R65] Rectangular 'side throw'



- For detailed specifications, product codes and latest performance data, refer to www.we-ef.com
- Shown above are rated lumens for 3000 K at T_q = 25°C
- For accessories, refer to www.we-ef.com

PTY400

Luminaire housing:	Marine-grade, all-aluminium construction
	Pole section features galvanised steel reinforcement core
Corrosion protection:	5CE, including PCS hardware
Driver:	Integral EC electronic converter
Main lens:	RFC™ Reflection Free Contour
Gasketing:	Silicone CCG® Controlled Compression Gaskets
Optics:	IOS® Innovative Optical System
	CAD-optimised for superior illumination and glare control
	OLC® One LED Concept
Installation:	FS Factory-sealed luminaire does not need to be opened during installation
	Surface mounting flange plate
	Planted root is available depending on site-specific requirements; to be ordered separately
Control options:	ON/OFF, 1-10 V, DALI

IP66 IK10

Available distributions:
[R45/R45] [S70/S70]
[A60/A60] [R65/R65]

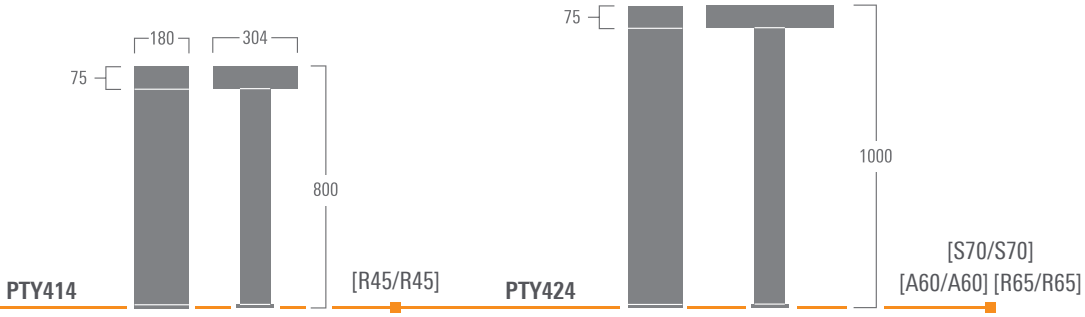
Standard colours – AU/NZ

RAL 9004 9006 9007 9016

Standard colours – AP

RAL 9004 9007 7016 9016

[R45/R45] Rectangular 'side throw'
[S70/S70] Asymmetric 'side throw'
[A60/A60] Asymmetric 'forward throw'
[R65/R65] Rectangular 'side throw'



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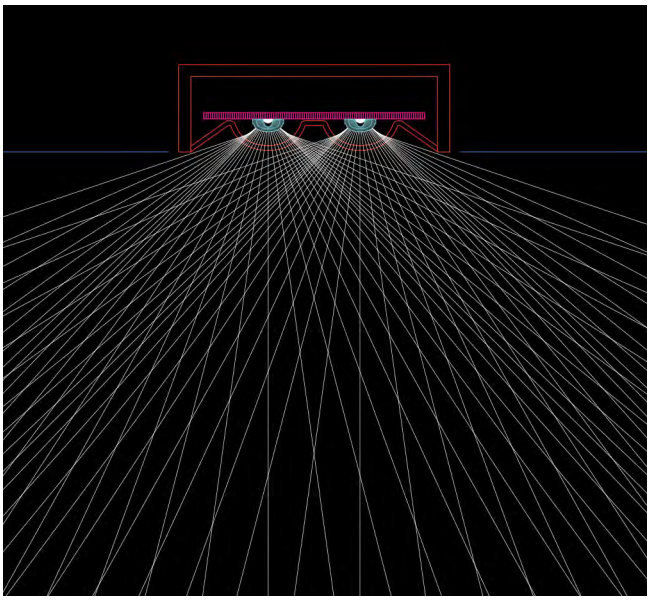
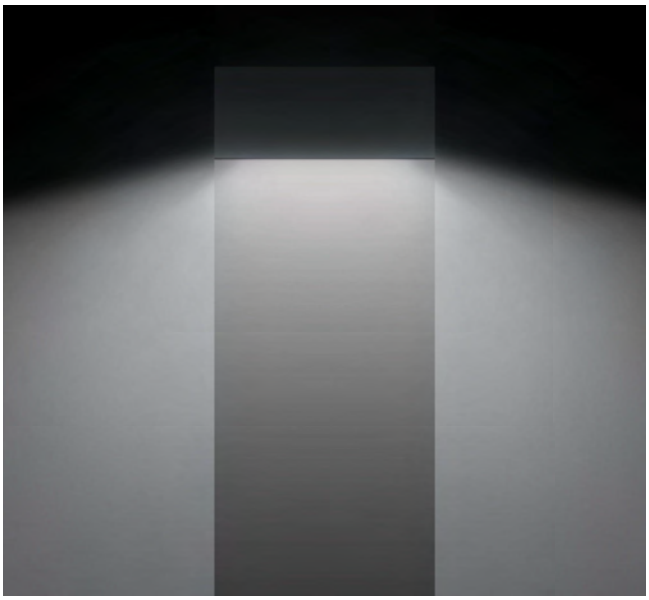
- For accessories, refer to www.we-ef.com

Bright Walks, Dark Skies

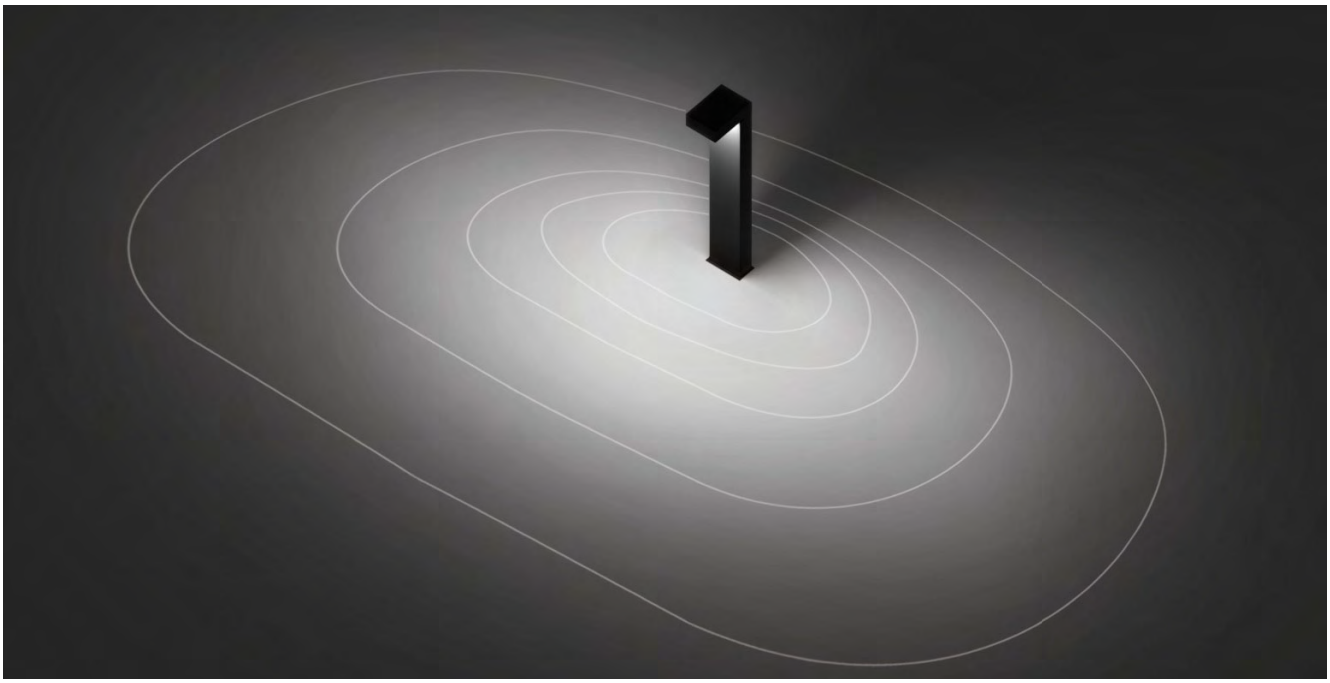
WE-EF's versatile, high-performance street and area lighting optics – customised for bollards of 0.8 to 1.0 metre height – deliver first-class illumination for narrow driveways, landscapes, pathways etc. With four different light distributions to choose from – [R45] [S70] [A60] [R65] – a large variety of lighting challenges can be addressed and mastered. At the same time, 100 per cent horizontal cut-off addresses dark sky concerns and safeguards high visual comfort.





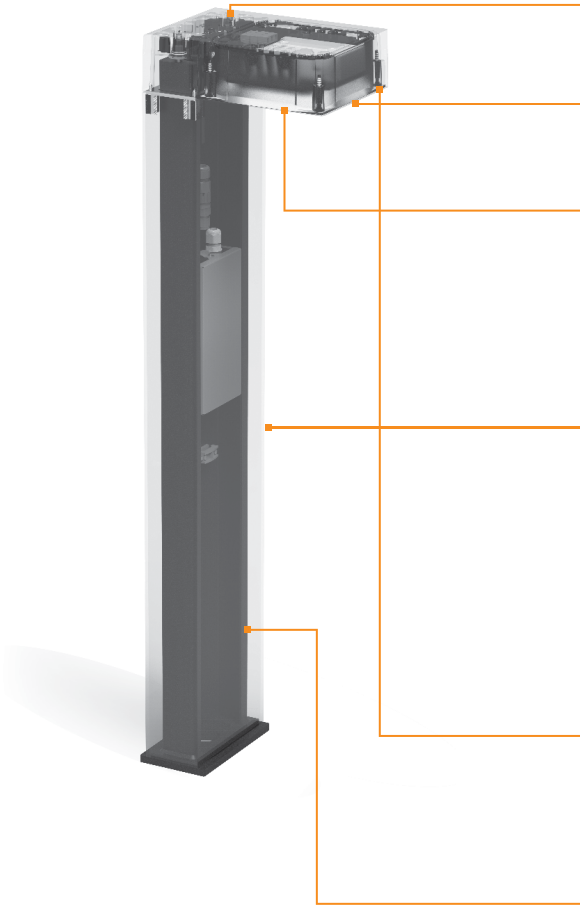
PSY424 [R65]

This CAD ray-tracing simulation demonstrates the [R65] optics' broad downward light distribution as well as its glare control qualities. The combined 'side throw' and 'forward throw' of light delivers uniform coverage for large areas.



Illuminance Footprint

Typical isolux diagram of a single-unit PSY424 [R65] installation. Several luminaires installed in a row provide excellent illumination for pathways, landscapes etc.



FS Factory-sealed
Luminaire does not need to be opened during installation

IOS® Innovative Optical System
CAD-optimised
Dark sky compliant

RFC™ Main Lens
Reflection Free Contour delivers high light transmission

Marine-grade All-aluminium Construction
Die-cast aluminium alloy luminaire body
Extruded aluminium alloy pole section

5CE Superior Corrosion Protection
Five Critical Elements provide outstanding and long-lasting anti-corrosion properties

- Substrate – marine-grade aluminium alloy
- Conversion coating – multi-step pre-treatment
- Powder coating – UV stabilised, architectural grade coating
- PCS hardware – refer to detail below
- Process Control – tightly controlled process and quality checks, up to 3,000-hour salt spray tests

PCS Hardware

- Austenitic stainless steel
- Tough, impregnated polymer coating
- Non-metallic barrier, protects against galvanic corrosion

Anti-vandalism Reinforcement
Core structure and surface mounting flange plate made from hot-dipped galvanised steel

MRY200

Luminaire housing:	Marine-grade, all-aluminium construction
	Pole section features galvanised steel reinforcement core
Corrosion protection:	5CE, including PCS hardware
Driver:	Integral EC electronic converter
Main lens:	Polycarbonate, UV-stabilised
Gasketing:	Silicone CCG® Controlled Compression Gasket
Optics:	IOS® Innovative Optical System
	CAD-optimised for superior illumination and glare control
Installation:	FS Factory-sealed luminaire does not need to be opened during installation
	Surface mounting flange plate
	Planted root is available depending on site-specific requirements; to be ordered separately
Control options:	ON/OFF, 1-10 V, DALI

IP66
IP67

IK10

Available distribution:
[C70]

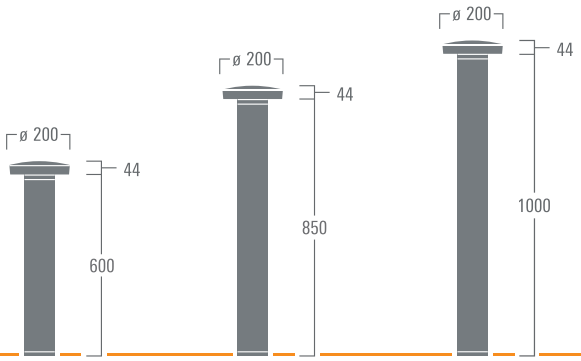
Standard colours – AU/NZ

RAL 9004 9006 9007 9016

Standard colours – AP

RAL 9004 9007 7016 9016

[C70] Symmetric



MRY224

[C70]

11-15 W

890-1180 lm

2700 K 3000 K 4000 K

- For detailed specifications, product codes and latest performance data, refer to www.we-ef.com
- Shown above are rated lumens for 3000 K at T_q = 25°C
- For accessories, refer to www.we-ef.com

KTX200 / KTY200

Luminaire housing:	Marine-grade, all-aluminium construction
Corrosion protection:	5CE, including PCS hardware
Driver:	Integral EC electronic converter in thermally-separated compartment
Main lens:	Polycarbonate, UV-stabilised
Gasketing:	Silicone CCG® Controlled Compression Gasket
Optics:	IOS® Innovative Optical System
	CAD-optimised for superior illumination and glare control
Installation:	FS Factory-sealed luminaire does not need to be opened during installation
	Surface mounting flange plate
	Planted root is available depending on site-specific requirements; to be ordered separately
Control options:	ON/OFF, 1-10 V, DALI

IP66 IK10

Available distributions:
[C60] [R65]

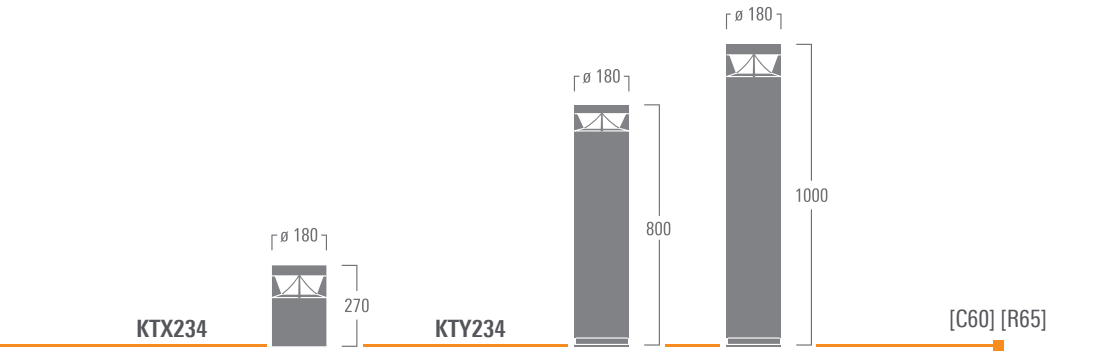
Standard colours – AU/NZ

RAL 9004 9006 9007 9016

Standard colours – AP

RAL 9004 9007 7016 9016

[C60] Symmetric
[R65] Rectangular 'side throw'



9-26 W
470-960 lm
Max. 1 internal accessory

- For detailed specifications, product codes and latest performance data, refer to www.we-ef.com
- Shown above are rated lumens for 3000 K at $T_q = 25°C$
- For accessories, refer to www.we-ef.com

ZFY200

Luminaire housing:	Marine-grade, all-aluminium construction
Corrosion protection:	5CE, including PCS hardware
Driver:	Integral EC electronic converter in thermally-separated compartment
Main lens:	Polycarbonate, UV-stabilised
Gasketing:	Silicone CCG® Controlled Compression Gasket
Optics:	IOS® Innovative Optical System
	CAD-optimised for superior illumination and glare control
Installation:	FS Factory-sealed luminaire does not need to be opened during installation
	Surface mounting flange plate
	Planted root is available depending on site-specific requirements; to be ordered separately
Control options:	ON/OFF, 1-10 V, DALI

IP66 IK10

Available distribution:
[C60]

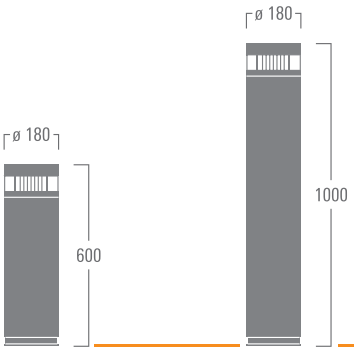
Standard colours – AU/NZ

RAL 9004 9006 9007 9016

Standard colours – AP

RAL 9004 9007 7016 9016

[C60] Symmetric



ZFY230

[C60]

12-17 W

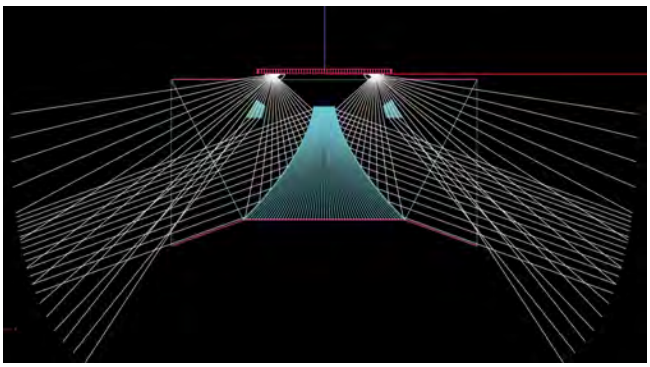
760-1140 lm

Max. 1 internal accessory

- For detailed specifications, product codes and latest performance data, refer to www.we-ef.com
- Shown above are rated lumens for 3000 K at $T_q = 25°C$
- For accessories, refer to www.we-ef.com

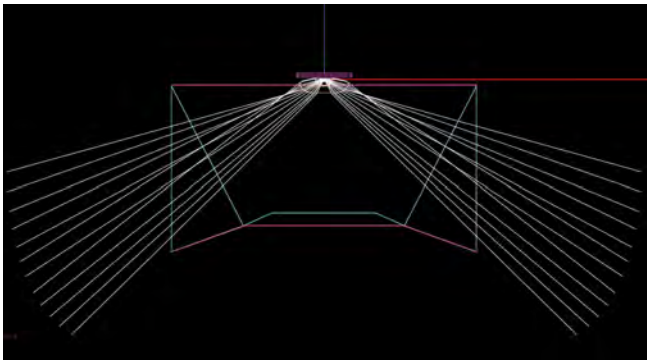
All-round Bollards for Controlled Horizontal and Vertical Illumination

WE-EF's IOS® Innovative Optical System features CAD-optimised optics that provide superior illumination and glare control. Two distinctly different light distributions are available for the luminaires introduced on the preceding pages. The [C60] symmetric distribution is the highly efficient result of a specifically designed reflector/lens combination. While the '60' refers to the nominal angle of peak intensity from nadir (downward vertical), highly uniform illuminance is achieved at ground level. The [R65] rectangular distribution combines controlled 'forward' with broad 'side throw', allowing for large spacing intervals between luminaires. In addition, a controlled amount of vertical illuminance facilitates facial recognition and similar viewing tasks in an otherwise dark environment, such as public parks etc.



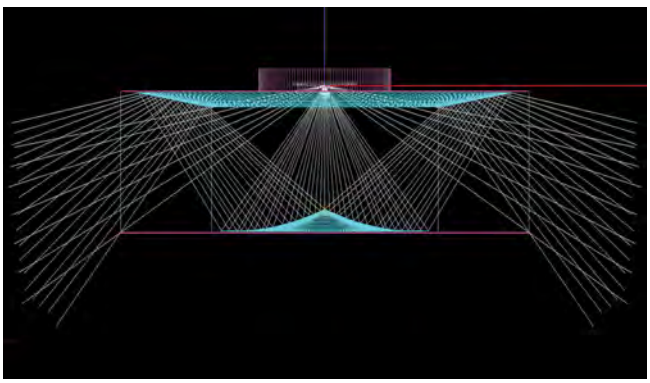
KTX200 / KTY200 [C60]

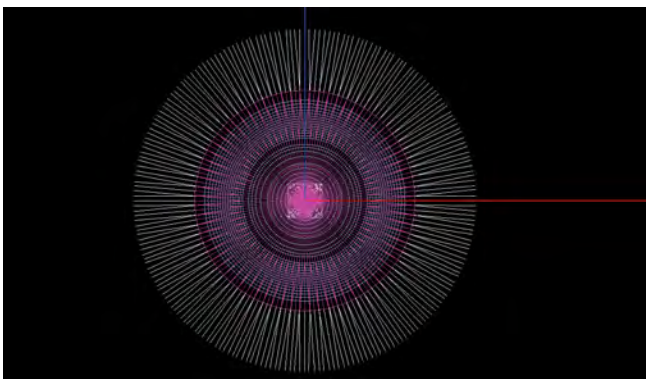
This CAD ray-tracing simulation demonstrates the controlled downward light distribution. The refractor lens simultaneously reduces surface brightness and provides a limited vertical illuminance component – facilitating facial recognition.



KTX200 / KTY200 [R65]

An array of highly effective optical lenses delivers uniform pathway lighting. The 'eyebrow' prisms restrict high-angle glare – ensuring high visual comfort.





ZFY200 [C60]

The luminaire's reflector elements produce a controlled downward distribution. An additional refractor lens reduces surface brightness while creating a limited amount of vertical illuminance – all contributing factors to ensuring high visual comfort, facial recognition and public safety.

180° Cut-off shield

KTY234 [R65] without.....

.....and with 180° cut-off shield.

KTX234 [R65]

Fitted with the 180° cut-off shield, this short bollard version casts extended, smooth pools of light along the pathway, as shown in this intimate setting.

CFY200

Luminaire housing:	Marine-grade, all-aluminium construction
Corrosion protection:	5CE, including PCS hardware
Driver:	Integral EC electronic converter in thermally-separated compartment
Main lens:	Safety glass
Gasketing:	Silicone CCG® Controlled Compression Gasket
Optics:	CAD-optimised for superior illumination and glare control
Installation:	FS Factory-sealed luminaire does not need to be opened during installation
	Surface mounting flange plate
	Planted root is available depending on site-specific requirements; to be ordered separately
Control option:	ON/OFF, 1-10 V, DALI

IP66 IK10

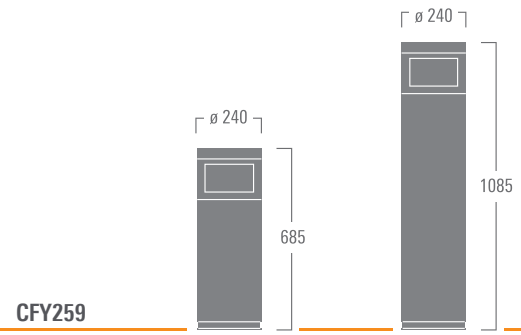
Available distribution:
'Forward throw'

Standard colours – AU/NZ

RAL 9004 9006 9007 9016

Standard colours – AP

RAL 9004 9007 7016 9016



CFY259

One-sided 'Forward throw'	Two-sided 'Forward throw'
12-18 W	24-36 W
350-500 lm	690-990 lm

- For detailed specifications, product codes and latest performance data, refer to www.we-ef.com
- Shown above are rated lumens for 3000 K at T_q = 25°C
- For accessories, refer to www.we-ef.com

A Walk in the Park

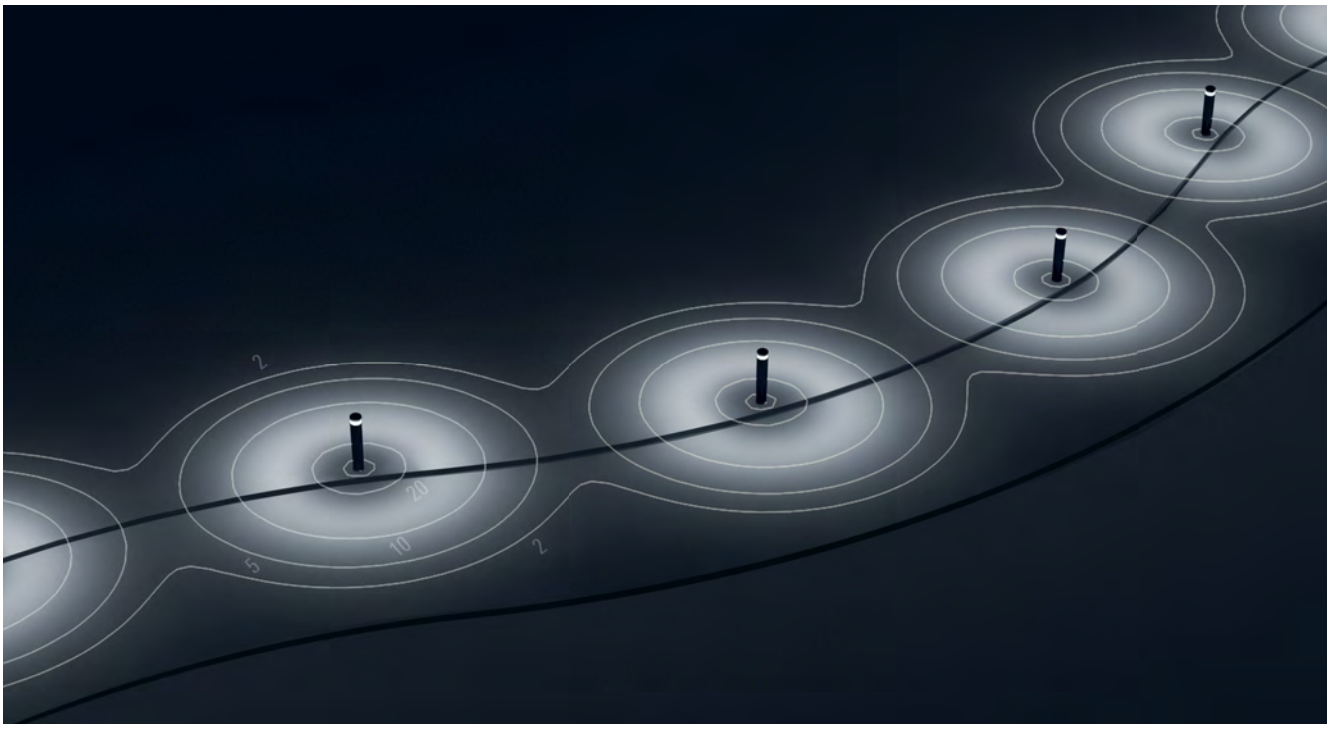
With their unobtrusive appearance, well-designed bollards are often the preferred 'human scale' lighting tool in park landscapes as well as in modern and traditional architectural settings. Engineered for mechanical strength, durability and high photometric performance, their below-eye level optics deliver either entirely glare-free, dark-sky compliant lighting, or include a controlled amount of vertical illuminance that facilitates facial recognition in an otherwise dark environment. Pathway lighting applications as shown here cover a typical path width of 1 to 4 metres and luminaire spacing from 5 to 10 metres.

Australian/New Zealand Standard AS/NZS 1158.3.1 details very specific minimum requirements for different types of pathway lighting applications – which WE-EF bollards meet with ease. Permissible spacing of the bollards featured here ranges between approx. 7 and 24 metres.
Please contact WE-EF for further details and planning support.

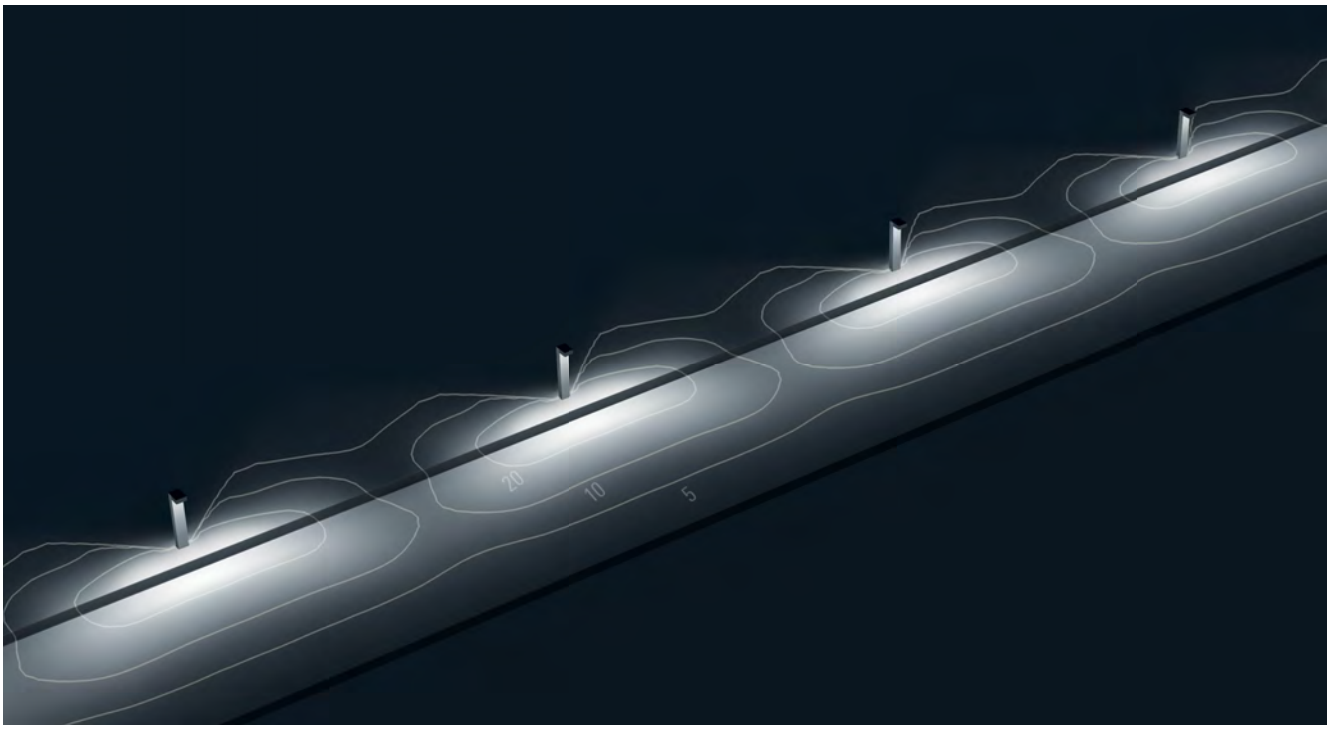
Bollard	Typical Application		AS/NZS 1158.3.1 P3 Pathway		AS/NZS 1158.3.1 P4 Pathway	
	Width of path	Luminaire spacing	Width	Spacing	Width	Spacing
KTY234 [R65] 13 W 4000 K	1-4 m	7-10 m	1-4 m	11.1 m (max)	1-4 m	19.3 m (max)
KTY234 [C60] 26 W 4000 K	1-4 m	7-10 m	1-4 m	18.8 m (max)	1-4 m	23.7 m (max)
ZFY230 [C60] 17 W 4000 K	1-4 m	5-10 m	1-4 m	8.2 m (max)	1-4 m	14.6 m (max)
PSY424 [S70] 26 W 4000 K	1-4 m	7-10 m	–	–	1-4 m	14.6 m (max)
PSY424 [R65] 26 W 4000 K	1-4 m	7-10 m	–	–	1-4 m	14.6 m (max)
MRY224 [C70] 15 W 4000 K	1-4 m	5-10 m	–	–	1-4 m	11.0 m (max)

AS/NZS 1158.3.1	P3 Pathway	P4 Pathway
E_{avg} (lux) ≥	1.75	0.85
E_{min} (lux) ≥	0.3	0.14
Ev_{min} (lux) ≥	0.3	–
E_{max}/E_{min} (lux) ≤	10	10

KTY234 [R65]
13 W 4000 K LLF = 0.9
Luminaire spacing 7.0 metres Path width 4.0 metres



ZFY230 [C60]
12 W 4000 K LLF = 0.9
Luminaire spacing 7.0 metres Path width 4.0 metres



PSY424 [S70]
26 W 4000 K LLF = 0.9
Luminaire spacing 7.0 metres Path width 4.0 metres

NTY100

Luminaire housing:	Marine-grade, all-aluminium construction
Corrosion protection:	5CE, including PCS hardware
Driver:	Integral EC electronic converter in thermally-separated compartment
Main lens:	Prismatic polycarbonate, UV-stabilised
Gasketing:	Silicone rubber gaskets
Optics:	IOS® Innovative Optical System
	CAD-optimised for superior illumination and glare control
Installation:	FS Factory-sealed luminaire does not need to be opened during installation
	Surface mounting flange plate
	Planted root is available depending on site-specific requirements; to be ordered separately
Control options:	ON/OFF, 1-10 V or DALI on request

IP65 IK10

Außenalster
Hamburg (DE)

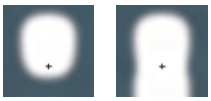
Available distribution:
[A60]

Standard colours – AU/NZ

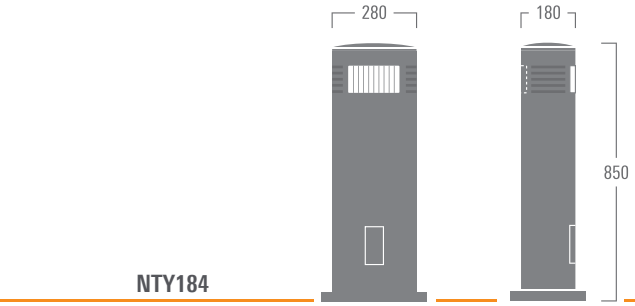
RAL 9004 9006 9007 9016

Standard colours – AP

RAL 9004 9007 7016 9016



[A60] Asymmetric 'forward throw'



NTY184

[A60] One-sided	[A60] Two-sided
12-18 W	24-36 W
720-1140 lm	1360-2160 lm

- For detailed specifications, product codes and latest performance data, refer to www.we-ef.com
- Shown above are rated lumens for 3000 K at T_q = 25°C
- For accessories, refer to www.we-ef.com

QSI200

Luminaire housing:	Marine-grade, all-aluminium construction
Corrosion protection:	5CE, including PCS hardware
Driver:	Integral EC electronic converter
Main lens:	Safety glass
Gasketing:	Silicone rubber gasket
Installation:	FS Factory-sealed luminaire does not need to be opened during installation
	Surface mounting flange plate
	Planted root is available depending on site-specific requirements; to be ordered separately
Control options:	ON/OFF, 1-10 V, DALI

IP66 IK10

Scarborough Beach Pool
Scarborough (AU)
Architect: Christou Design Group
Lighting Design: ETC

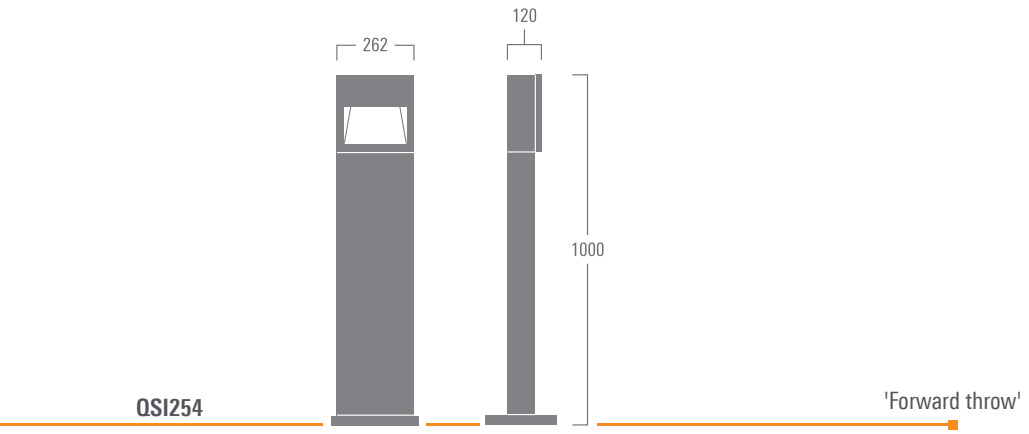
Available distribution:
'Forward throw'

Standard colours – AU/NZ

RAL 9004 9006 9007 9016

Standard colours – AP

RAL 9004 9007 7016 9016



QSI254

'Forward throw'

12 W

800 lm

- For detailed specifications, product codes and latest performance data, refer to www.we-ef.com
- Shown above are rated lumens for 3000 K at $T_q = 25°C$
- For accessories, refer to www.we-ef.com

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